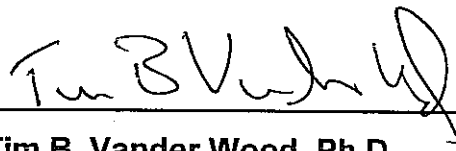


**Report of Results: MVA5394**  
**Analysis of Settled Dust**  
**Ventura Youth Correctional Facility**

**Prepared for:**

**State of California**  
**Dept of General Services**  
**Seismic & Special Programs**  
**707 West 3rd St.**  
**West Sacramento, CA 95605**

**Respectfully Submitted by:**



**Tim B. Vander Wood, Ph.D.**  
**Executive Director**

**MVA Scientific Consultants**  
**3300 Breckinridge Boulevard**  
**Suite 400**  
**Duluth, GA 30096**

**29 August 2007**



**Report of Results: MVA5394****Analysis of Settled Dust - Ventura Youth Correctional Facility****Introduction**

On 24 July 2007, we received five settled dust samples from Clark Sief Clark, reportedly collected from the Ventura Youth Correctional Facility, 3100 Wright Rd, SPC Bldg., Camarillo, California. We were asked to determine the asbestos levels in the dust and possible sources for the asbestos. Upon receipt, the samples were assigned MVA Scientific Consultants laboratory identification numbers as follows:

<u>Sample ID</u>	<u>Sample Description</u>	<u>MVA Number</u>
27VA	SPC center corridor bet. SPC 9 & SPC 5- Top of ceiling tile	S0890
28VA	SPC Control @ entry, Top of ceiling tile	S0891
29VA	SPC 11-Center of room, Top of ceiling tile	S0892
30VA	SPC 10-Next to door, Top of ceiling tile	S0893
31VA	SPC 10-Over Piano, Top of ceiling tile	S0894

All analyses were carried out in our laboratory during the period 24 July through 27 August 2007.

**Methods**

The samples were analyzed according to ASTM Method D5755-03 using either a Philips model EM420 or a Philips model CM120 transmission electron microscope (TEM), equipped with an Oxford INCA energy dispersive x-ray spectrometer (EDS). Additional analyses for dust constituents that may serve as source indicators were also conducted by TEM/EDS.

**Results and Discussion**

The results of analysis for these samples are presented in Table 1. The Appendix contains a summary of the analytical results, the laboratory count sheets, and images and EDS spectra of typical asbestos fibers found in these samples. Also contained in the appendix are images and spectra showing vermiculite associated with chrysotile fibers and other asbestiform amphibole minerals typical of those known as "Libby amphibole" and observed as contaminants in vermiculite from the Libby, Montana vermiculite mine operated by W.R. Grace.



## Conclusions

Dust analyzed in this study contains elevated levels of chrysotile asbestos. Portions of the dust are consistent with derivation from a chrysotile/vermiculite bearing fireproofing. Asbestiform amphibole consistent with "Libby amphibole" was also found, indicating that the vermiculite in this sample originated at least in part at W.R. Grace's Libby vermiculite mine.

**Table 1. Asbestos Concentration in Settled Dust Samples**

Sample ID	MVA Number	Asbestos Str/cm <sup>2</sup>
27VA	S0890	88,966,667
28VA	S0891	46,053,333
29VA	S0892	8,373,333
30VA	S0893	None Detected
31VA	S0894	26,515,556





HEALTH • SAFETY • ENGINEERING • ENVIRONMENTAL

Chain of Custody-  
TEM Micro-VacuumRequested TAT (Circle One) Same Day One Day (24hr) Normal (48hr)  
Analysis Type (Circle One) Air Surface Bulk Water

CSC Project #	Claim #	Sampling By	# of Samples	Date(s) Taken	Page #	Total Pages	
101 4265		FS	5	7.20.07		Of	
Project Name & Location: Client Information:							
Ventura Youth Convictional Facility							
3100 Walnut Rd - SPC Bldg.							
Camarillo, CA 93010							
Sampling Area and/or Building #:							
Sample #	Date	Sample Location	Pump #	Start Flow Rate End Flow Rate	Start Time End Time	Total Volume/Area	Type of Analysis
27VA		SPC - Center Corridor bet. SPC 9 & SPC 5 - Top of Ceiling tile	IAQ 46	10.9' / 10.9'	2 mi	100 cm <sup>2</sup>	
28VA		SPC Central - C. entry Top of Ceiling tile	IAQ 46	10.9' / 10.9'	2 mi	100 cm <sup>2</sup>	
29VA		SPC 11 - Center of room Top of Ceiling tile		10.9' / 10.9'	2 mi	100 cm <sup>2</sup>	
30VA		SPC 10 - Next to door Top of Ceiling tile		10.9' / 10.9'	2 mi	100 cm <sup>2</sup>	
31VA		SPC 10 - Over Piano Top of Ceiling tile		10.9' / 10.9'	2 mi	100 cm <sup>2</sup>	
32VA		Back					
Relinquished By (Print & Sign) Date & Time Received By (Print & Sign) Date & Time Analysis By (Print & Sign) Date & Time							
FRANCO SEIF / [Signature]		7.23.07 09:08		[Signature]		7/24/07 9:00A	
Relinquished By (Print & Sign)		Date & Time		Received By (Print & Sign)		Date & Time	

## APPENDIX



**ASTM D5755 Results****MVA 5394**

By: W.Hill

Client project number:

Str/cm = No Str. X CFA X Total Vol.

Grid Op. X GO Area X Vol Filt X Area Sampled

MVA #:	S0890	Client #:	27.VA				
Str. #	CFA	#GO	Area GO	Vol Filt ml	Total Vol.	Area Samp.	
51	1256	8	0.009	0.01	100	100	

Anal. Sens = 1744444.444 Str/CM2 LOD =3\* Anal. Sens = 5233333.333

Total = 88966666.667 Str/CM2

MVA #:	S0891	Client #:	28.VA				
Str. #	CFA	#GO	Area GO	Vol Filt ml	Total Vol.	Area Samp.	
33	1256	10	0.009	0.01	100	100	

Anal. Sens = 1395555.556 Str/CM2 LOD =3\* Anal. Sens = 4186666.667

Total = 46053333.333 Str/CM2

MVA #:	S0892	Client #:	29.VA				
Str. #	CFA	#GO	Area GO	Vol Filt ml	Total Vol.	Area Samp.	
6	1256	10	0.009	0.01	100	100	

Anal. Sens = 1395555.556 Str/CM2 LOD =3\* Anal. Sens = 4186666.667

Total = 8373333.333 Str/CM2

MVA #:	S0893	Client #:	30.VA				
Str. #	CFA	#GO	Area GO	Vol Filt ml	Total Vol.	Area Samp.	
0	1256	10	0.009	0.1	100	100	

Anal. Sens = 139555.556 Str/CM2 LOD =3\* Anal. Sens = 418666.667

Total = 0.000 Str/CM2

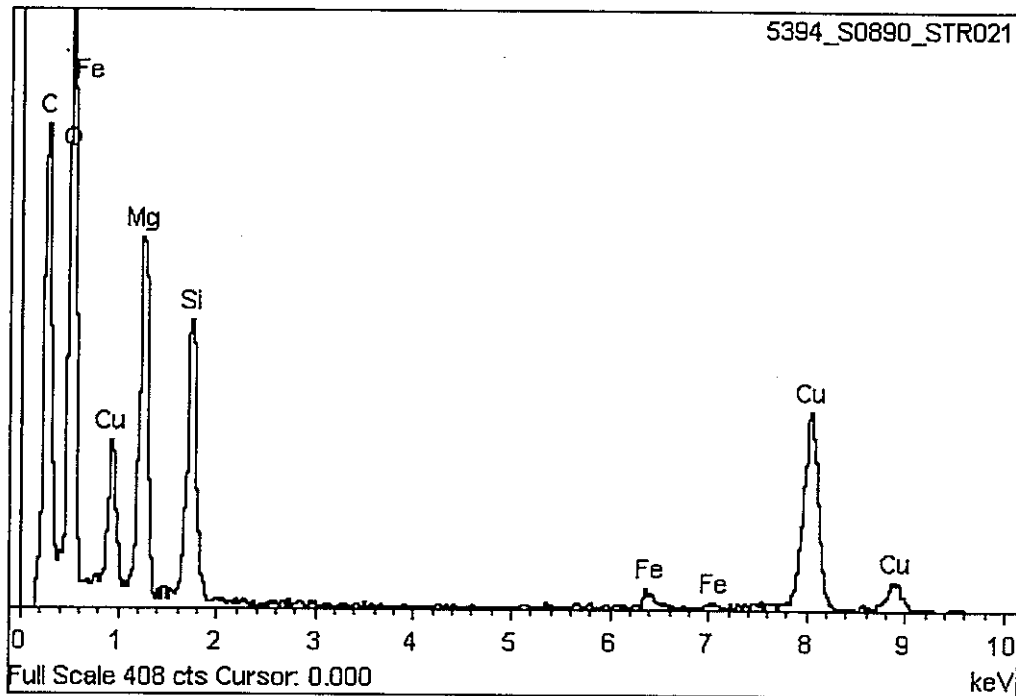
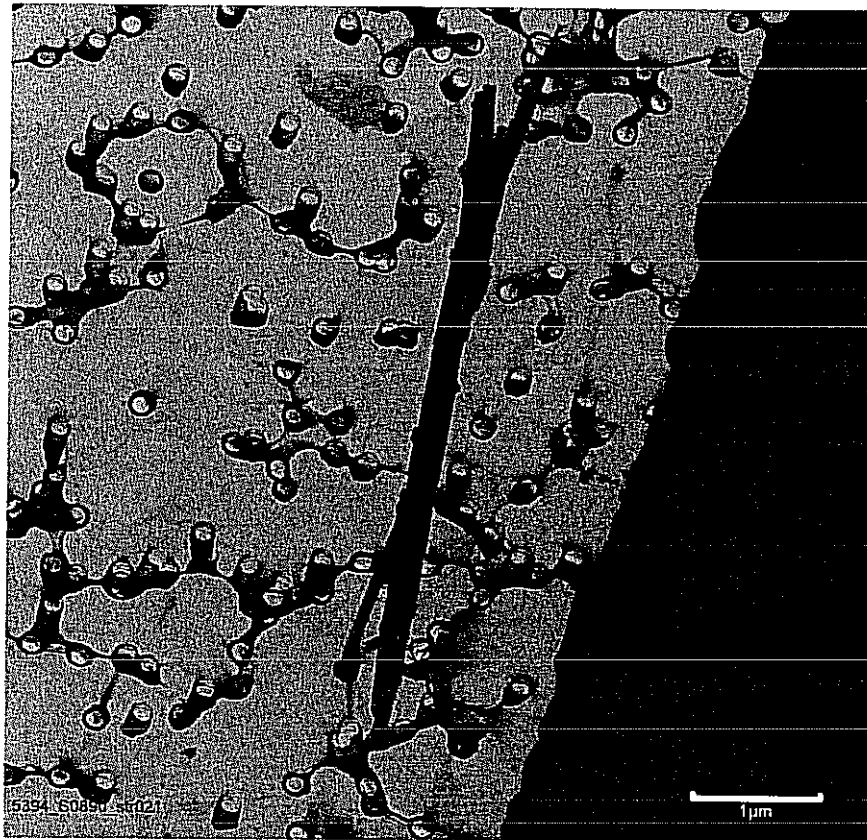
MVA #:	S0894	Client #:	31.VA				
Str. #	CFA	#GO	Area GO	Vol Filt ml	Total Vol.	Area Samp.	
19	1256	10	0.009	0.01	100	100	

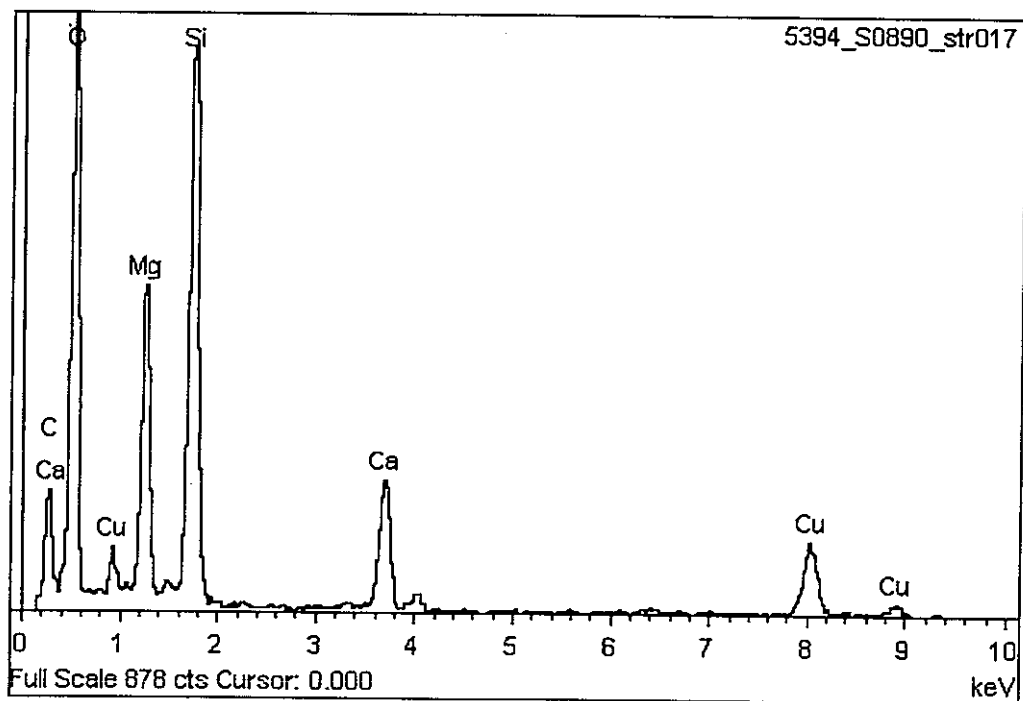
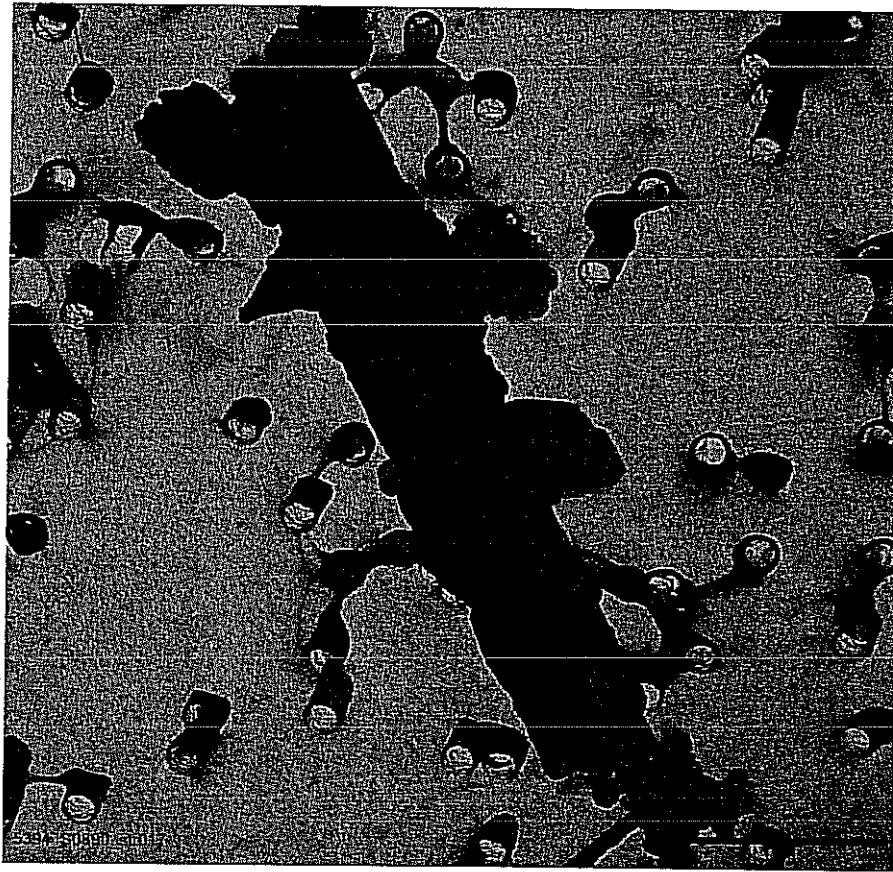
Anal. Sens = 1395555.556 Str/CM2 LOD =3\* Anal. Sens = 4186666.667

Total = 26515555.556 Str/CM2

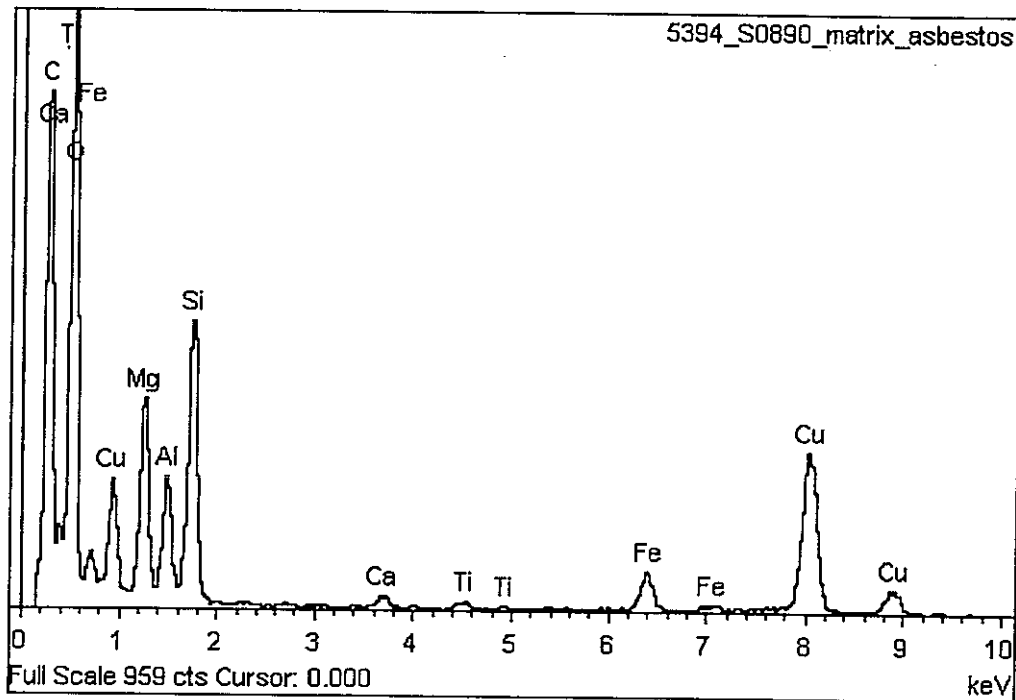
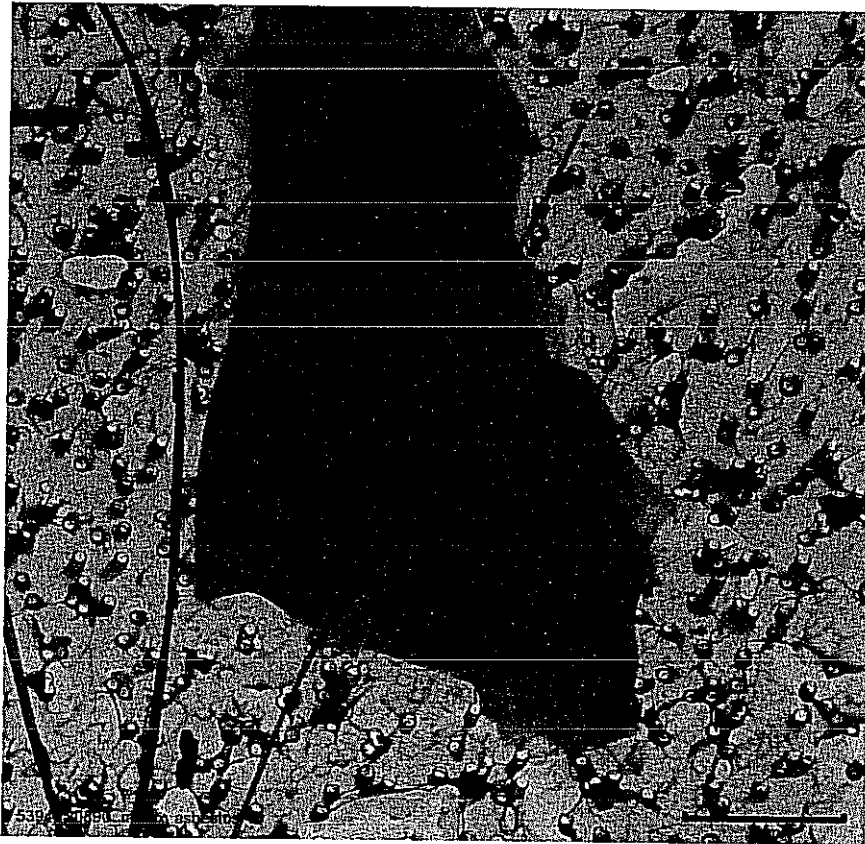
\*According to ASTM D6620

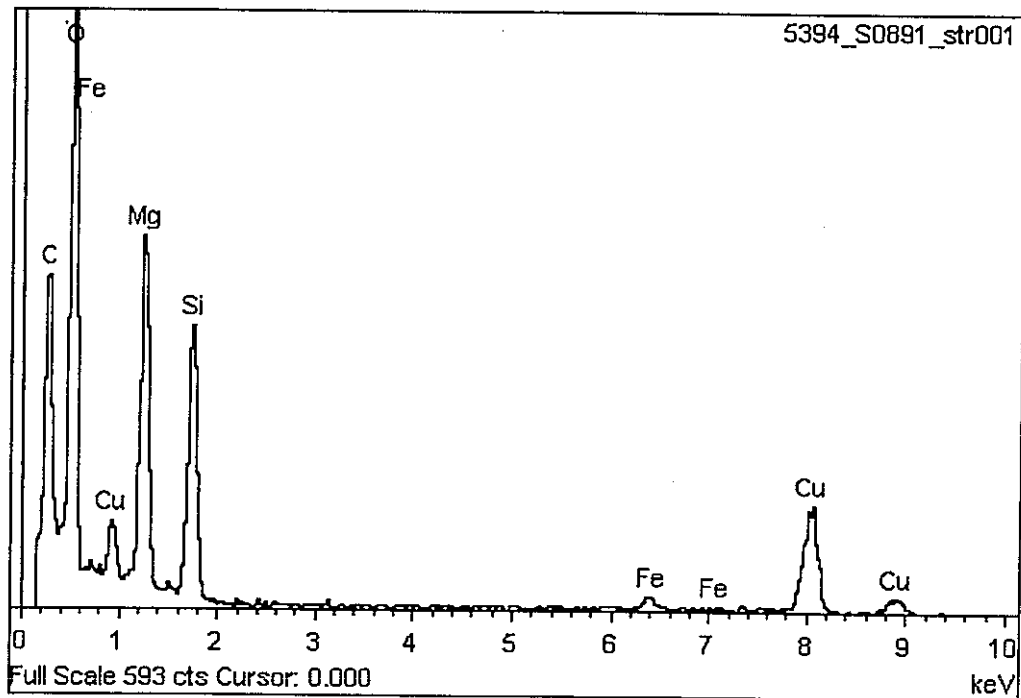


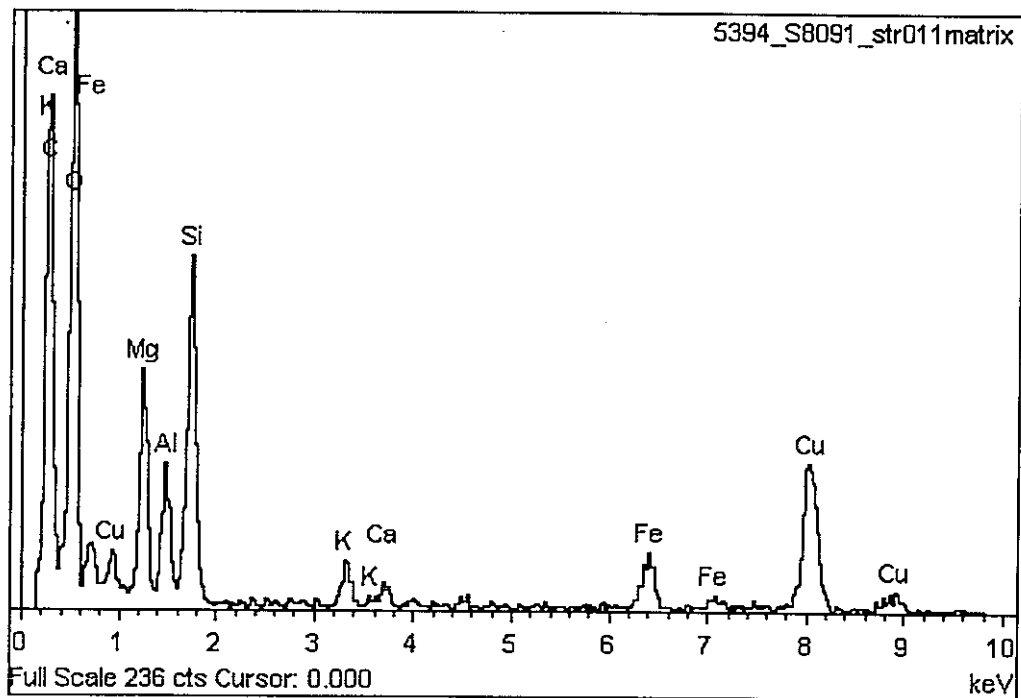
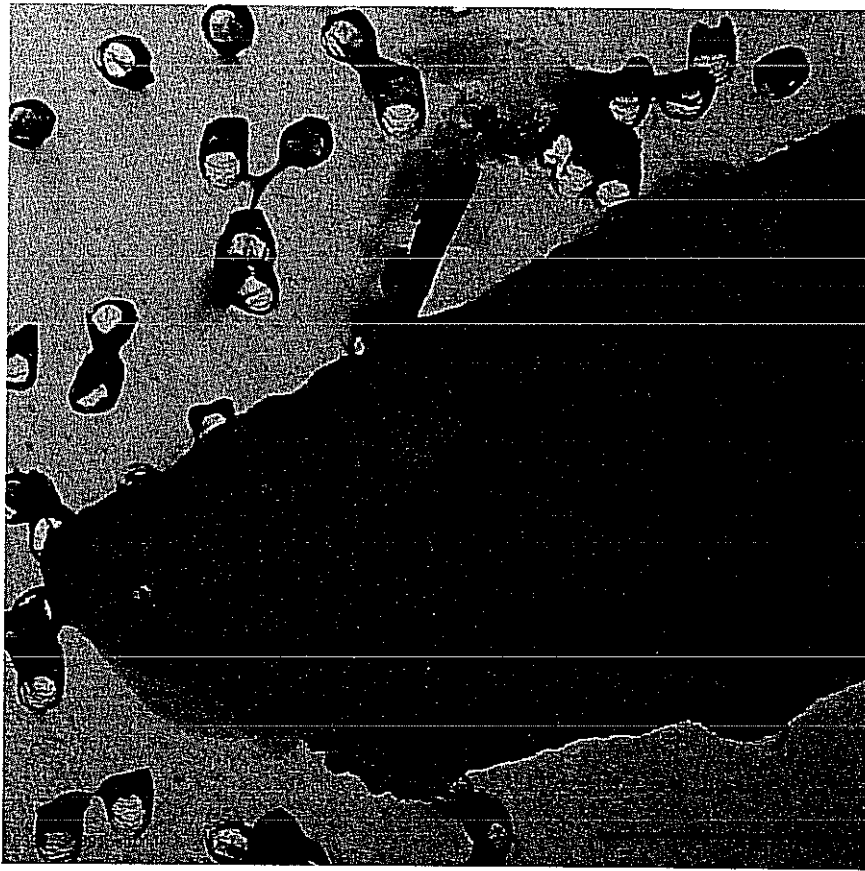


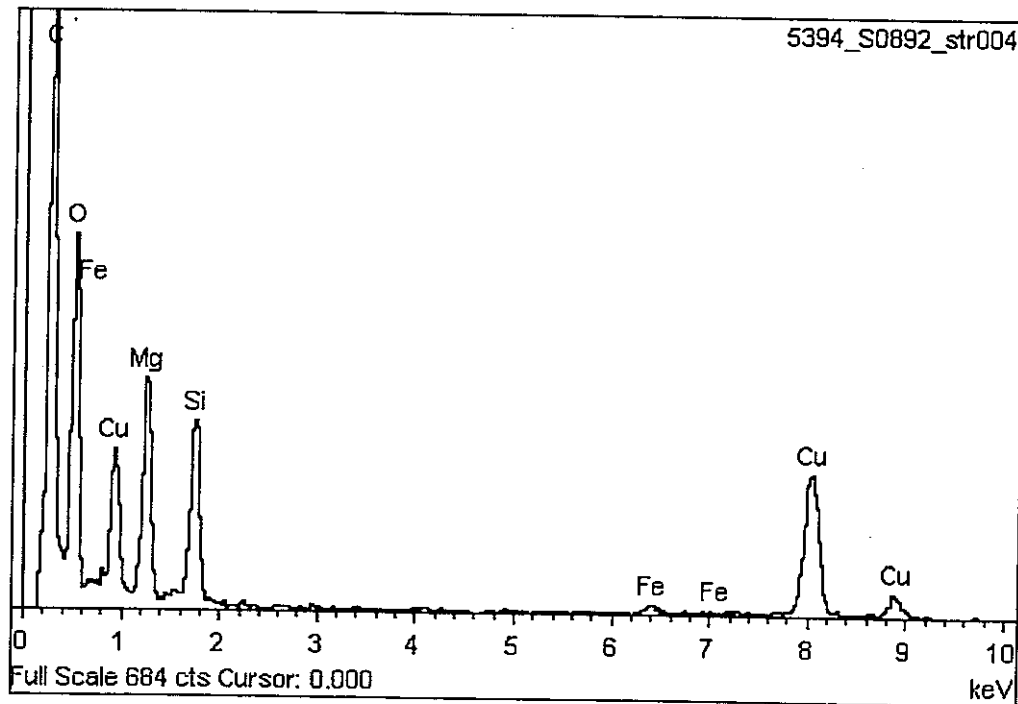
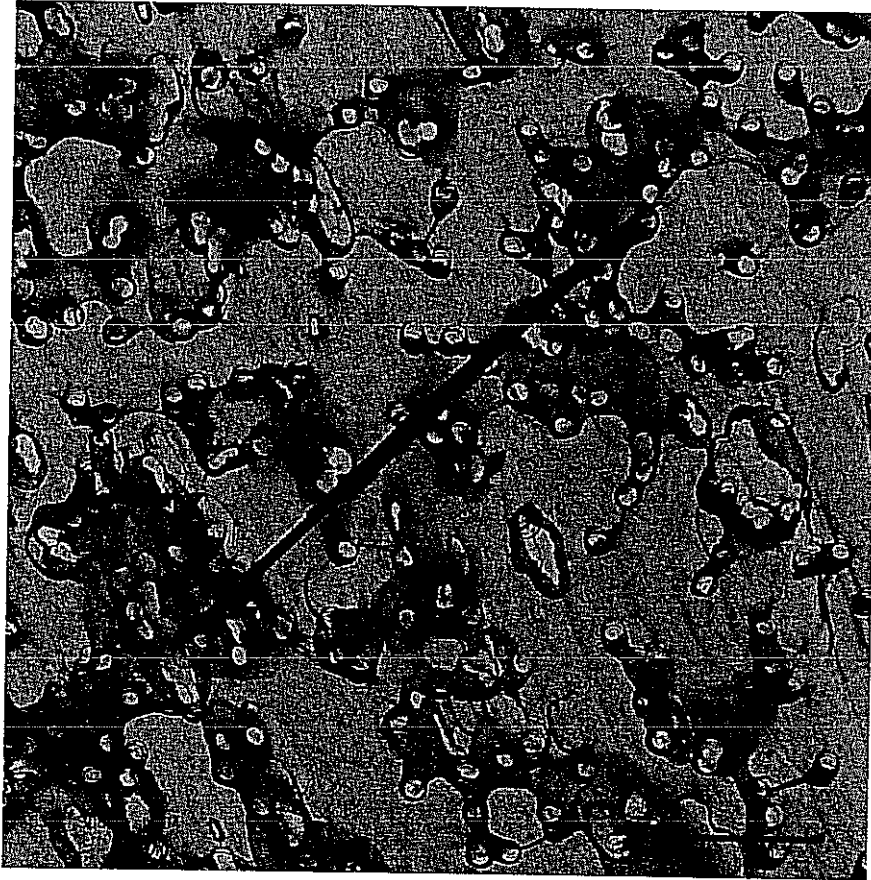


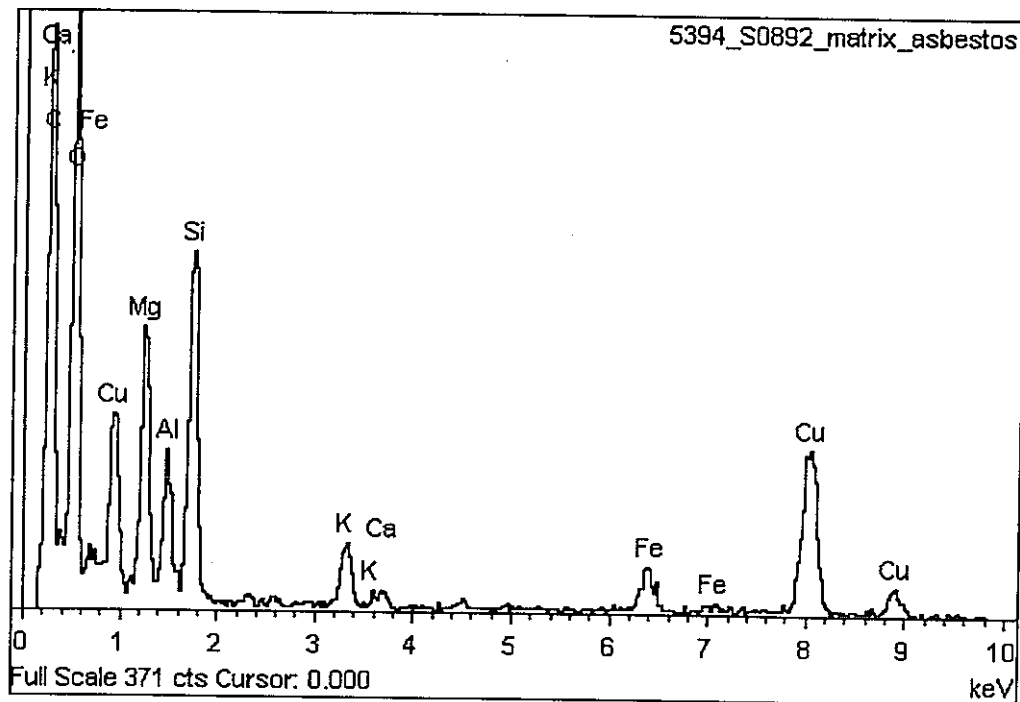


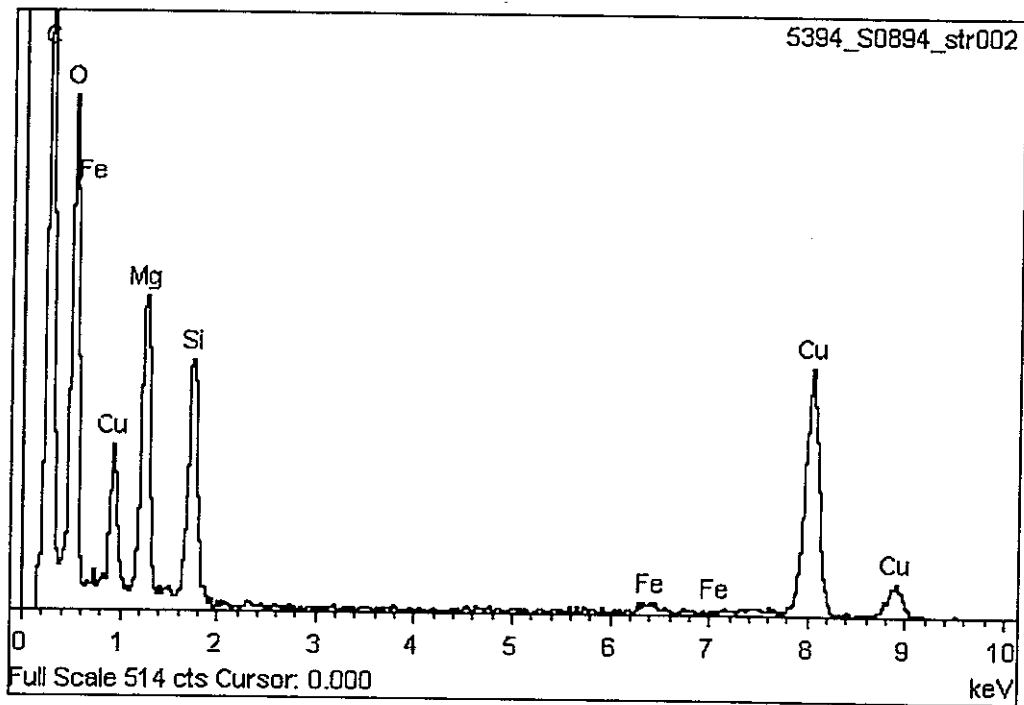
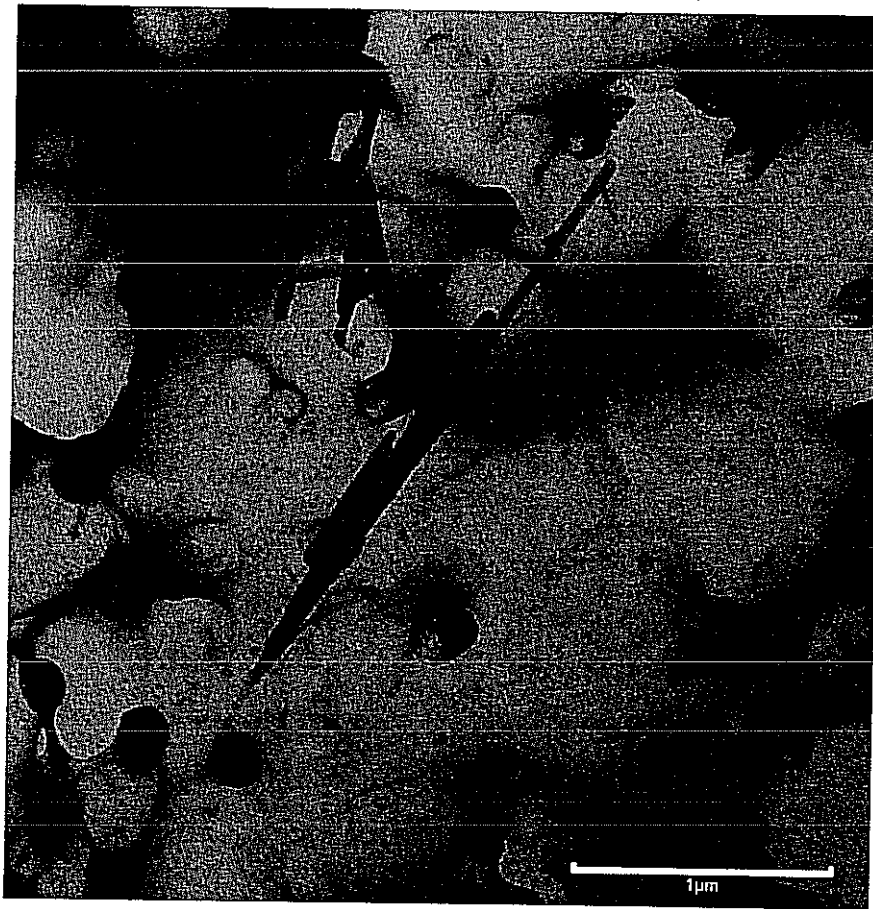


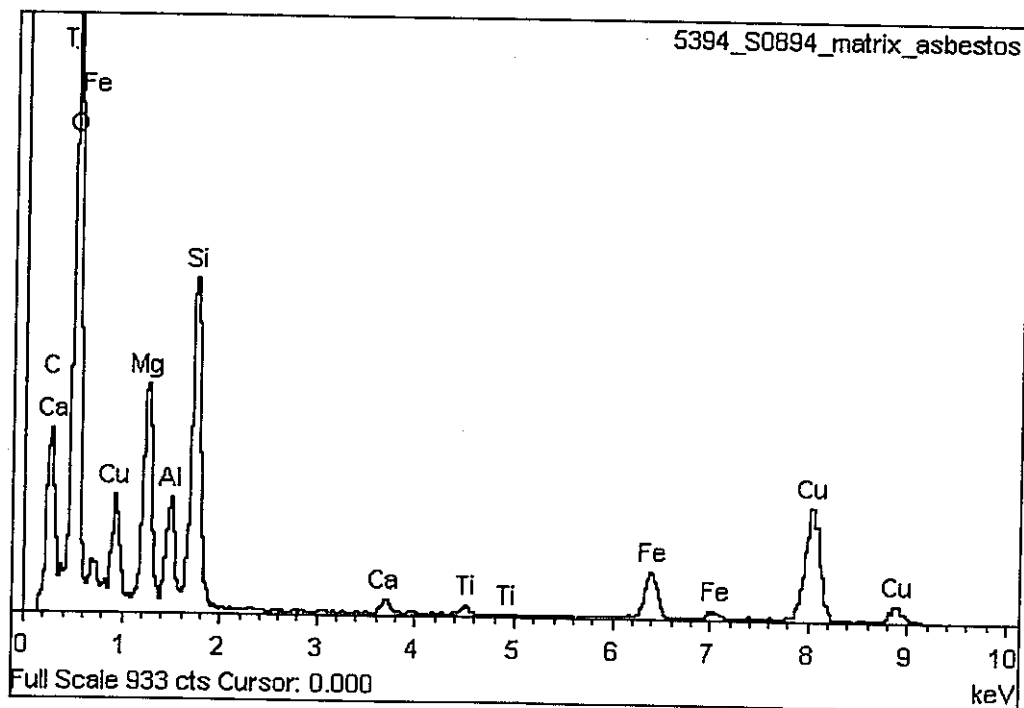
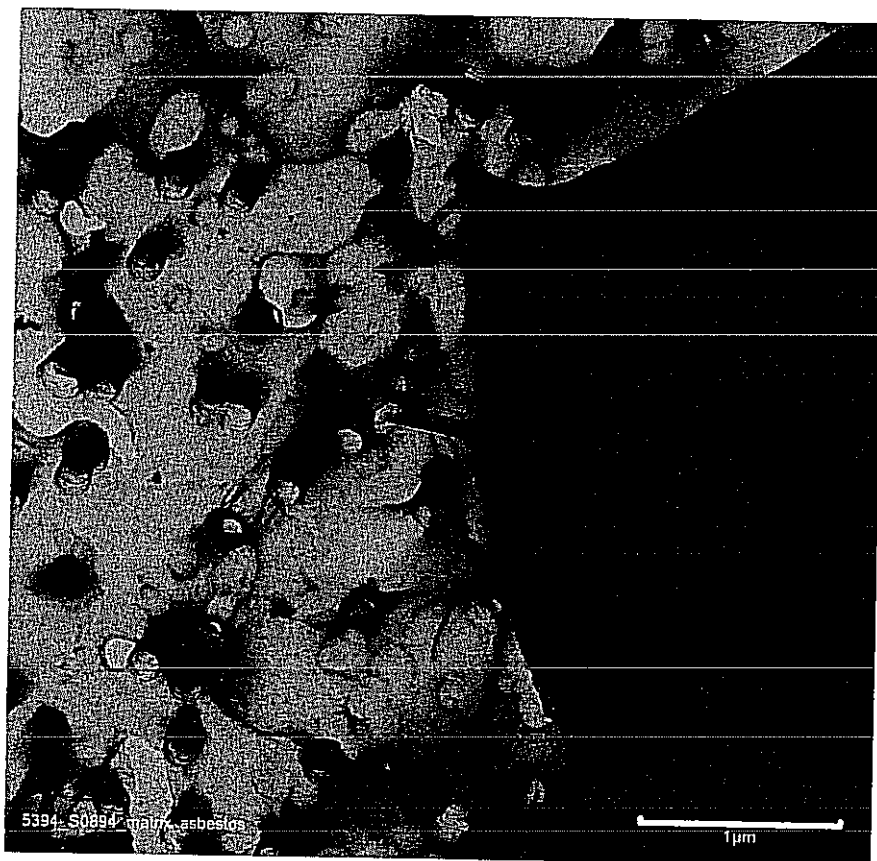












## Surface Dust Sample Analysis Sheet

MVA Project# 5394 Amt Collected(cm<sup>2</sup>): 100  
 MVA Sample# S0890 Amt Prepped(cm<sup>2</sup>): 0.01  
 Client I.D.: 27VA Filter Area (mm<sup>2</sup>): 1256  
 Instrument: Philips 120 Filter Type: PC  
 Magnification: 24,000 Openings Analyzed: 8  
 Acc. Voltage: 100 Grid Opening (mm<sup>2</sup>): 0.009

Analyst: WH

Date: 8/14/2007

Page: 1 of 2

Comments: 0.01 ml

ASTM Method: D6480

or D5755 X

Grid	Opening	Structure Number*	Structure Type	Length** (cm)	Width** (cm)	SAED	EDS	Comments	Length*** (μm)	Width*** (μm)
1	H7	1	F	6	0.1	C			2.5	0.04
		2	F	9.0	0.1	C			3.8	0.04
		3	F	30.0	0.1	C			12.5	0.04
		4	F	36.5	0.1	C			15.2	0.04
	G3	5	F	26.5	0.1	C			11.0	0.04
		6	F	13.5	0.1	C			5.6	0.04
		7	F	11.0	0.1	C			4.6	0.04
		8	F	4.9	0.1	C			2.0	0.04
		9	F	2.6	0.1	C			1.1	0.04
		10	F	10.5	0.1	C			4.4	0.04
		11	M	16.5	0.1	C			6.9	0.04
		12	F	3.5	0.1	C			1.5	0.04
	E4	13	F	13.0	0.1	C			5.4	0.04
		14	F	2.5	0.1	C			1.0	0.04
		15	F	10.5	0.1	C			4.4	0.04
	F8	16	M	1.5	0.1	C			0.6	0.04
		17	F	18.0	1.5	A	TR	photo	7.5	0.63
		18	F	3.1	0.1	C			1.3	0.04
		19	F	23.0	0.2	C			9.6	0.08
		20	M	2.5	0.1	C			1.0	0.04
		21	F	3.5	0.2	C			1.5	0.08
		22	F	7.0	0.1	C			2.9	0.04
		23	C	2.5	0.3	C			1.0	0.13
		24	F	2.5	0.1	C			1.0	0.04
		25	F	3.5	0.1	C			1.5	0.04
		26	F	9.0	0.1	C			3.8	0.04
	B6	27	F	4.5	0.1	C			1.9	0.04
		28	M	8.5	0.1	C			3.5	0.04
		29	F	21.5	0.1	C			9.0	0.04
		30	F	4.0	0.1	C			1.7	0.04
		31	B	12.5	0.7	C	C	photo	5.2	0.29
2	B3	32	F	2.5	0.15	C			1.0	0.06
		33	F	3.5	0.1	C			1.5	0.04
		34	F	5.0	0.2	C			2.1	0.08
		35	B	5.0	0.5	C			2.1	0.21

\*NFD or NSD = No Fibers Detected or No Structures Detected

\*\* On Screen Measurement

\*\*\* Calculated Actual Measurement (On Screen Measurement X 10,000/Magnification)

Structure Type: B = Bundle, C = Cluster, F = Fiber, M = Matrix

SAED: C = Chrysotile, A = Amphibole

EDS: C = Chrysotile, AM = Amosite, CR = Crocidolite, AC = Actinolite, AN = Anthophyllite, TR = Tremolite, N = Non Asbestos



### Surface Dust Sample Analysis Sh

Amt Collected(cm <sup>2</sup> ):	100
Amt Prepped(cm <sup>2</sup> ):	0.01
Filter Area (mm <sup>2</sup> ):	1256
Filter Type:	PC
Openings Analyzed:	8
Grid Opening (mm <sup>2</sup> ):	0.009

Date: 8/14/2007

Comments: 0.01 ml

or D5755 X

[illegible]

**\*\* On Screen Measurement**

Structure Type: B = Bundle, C = Cluster, F = Fiber, M = Matrix.

EDS: C = Chrysotile, AM = Amosite, CR = Crocidolite, AC = Actinolite, AN = Anthophyllite, TR = Tremolite, N = Non Asbestos. 纤维

## Surface Dust Sample Analysis Sheet

MVA Project#	5394	Amt Collected(cm <sup>2</sup> ):	100
MVA Sample#	S0891	Amt Prepped(cm <sup>2</sup> ):	0.01
Client I.D.:	28VA	Filter Area (mm <sup>2</sup> ):	1256
Instrument:	Philips 120	Filter Type:	PC
Magnification:	24,000	Openings Analyzed:	10
Acc. Voltage:	100	Grid Opening (mm <sup>2</sup> ):	0.009

Analyst: WH

Date: 8/14/2007

Page: 1 of 1

Comments: 0.01 ml

ASTM Method: D6480

or D5755 X

Grid	Opening	Structure Number*	Structure Type	Length** (cm)	Width** (cm)	SAED	EDS	Comments	Length*** (µm)	Width*** (µm)
1	B4	1	B	7.5	0.7	C	C	photo	3.1	0.29
		2	F	5.5	0.1	C			2.3	0.04
		3	B	23.5	0.3	C			9.8	0.13
		4	B	4.5	0.2	C			1.9	0.08
		5	B	10.5	0.25	C			4.4	0.10
	C7	6	B	7.0	0.8	C			2.9	0.33
		7	F	51.0	0.1	C			21.3	0.04
		8	F	5.0	0.1	C			2.1	0.04
		9	C	32.5	15	C			13.5	6.25
	E3	10	B	6.5	0.2	C			2.7	0.08
		11	M	1.5	0.2	C	C	photo	0.6	0.08
	G4	12	C	12.0	9	C			5.0	3.75
		13	F	4.0	0.1	C			1.7	0.04
		14	F	7.5	0.1	C			3.1	0.04
	I3	15	B	44.0	2.5	C			18.3	1.04
		16	B	11.0	0.6	C			4.6	0.25
		17	B	5.0	0.6	C			2.1	0.25
2	B2	18	B	7.5	0.8	C			3.1	0.33
		19	B	6.0	1	C			2.5	0.42
		20	F	5.5	0.1	C			2.3	0.04
	C4	21	B	10.0	0.2	C			4.2	0.08
		22	F	51.0	0.1	C			21.3	0.04
		23	C	3.0	3	C			1.3	1.25
		24	B	3.0	0.2	C			1.3	0.08
	E7	25	B	8.5	0.6	C			3.5	0.25
		26	F	5.4	0.1	C			2.3	0.04
		27	F	10.0	0.1	C			4.2	0.04
		28	F	2.0	0.1	C			0.8	0.04
	G5	29	F	3.5	0.1	C			1.5	0.04
		30	F	9.5	0.1	C			4.0	0.04
		31	F	9.0	0.1	C			3.8	0.04
	H3	32	F	114.5	0.1	C			47.7	0.04
		33	B	2.5	0.5	C			1.0	0.21

\*NFD or NSD = No Fibers Detected or No Structures Detected

\*\* On Screen Measurement

\*\*\* Calculated Actual Measurement (On Screen Measurement X 10,000/Magnification)

Structure Type: B = Bundle, C = Cluster, F = Fiber, M = Matrix

SAED: C = Chrysotile, A = Amphibole

EDS: C = Chrysotile, AM = Amosite, CR = Crocidolite, AC = Actinolite, AN = Anthophyllite, TR = Tremolite, N = Non Asbestos

MVA Project#	5394	Amt Collected(cm <sup>2</sup> ):	100
MVA Sample#	S0892	Amt Prepped(cm <sup>2</sup> ):	0.01
Client I.D.:	29VA	Filter Area (mm <sup>2</sup> ):	1256
Instrument:	Philips 120	Filter Type:	PC
Magnification:	24,000	Openings Analyzed:	10
Acc. Voltage:	100	Grid Opening (mm <sup>2</sup> ):	0.009

or D5755  $\overline{X}$

EDS: C = Chrysotile, AM = Amosite, CR = Crocidolite, AC = Actinolite, AN = Anthophyllite, TR = Tremolite, N = Non Asbestos

Analyst: WH  
Date: 8/14/2007  
Page: 1 of 1  
Comments: 0.1 ml  
ASTM Method: D6480  
or D5755 X

5394report082907ventura

or D5755 X